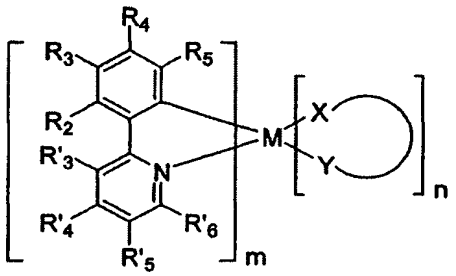
AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in this application.

Listing of Claims:

1. (previously presented) An emissive material represented by the structure:



wherein M is a heavy metal with an atomic weight of greater than or equal to 40;

R_3 is a substituent having a Hammett value greater than 0.6;

each of R_2, R_4, R_5, and R'_3 through R'_6 are independently selected from the group consisting of H, halogens, CN, perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, PO_3R, C≡CR, alkyl, alkenyl, aryl, heteroaryl, OR, SR, NR_2 (including cyclic-amino), and PR_2 (including cyclic-phosphino), where R is hydrogen, an alkyl group, an aryl group or a heteroaryl group;

m is an integer between 1 and 4 and n is an integer between 1 and 3; and,

is a monoanionic non carbon coordinating ligand.

2. (previously presented) The emissive material of claim 1 wherein R_4 is H.

3. (canceled)

4. (previously presented) The emissive material of claim 1 wherein R_5 is an electron withdrawing group.

5. (canceled)

6. (previously presented) The emissive material of claim 1 wherein at least one of R_2 and R_4 is an electron withdrawing group.

7. (previously presented) The emissive material of claim 4 wherein at least one of R_2 and R_4 is an electron withdrawing group.

8. (previously presented) The emissive material of claim 1 wherein at least one substituent of the emissive material is an electron withdrawing group selected from halogens, CN, perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, PO_3R, C≡CR, and aryl and heteroaryl groups substituted with halogens, CN, perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, or PO_3R , where R is a hydrogen, alkyl, aryl or heteroaryl group.

9. (previously presented) The emissive material of claim 1 wherein R_5 is an electron donating group.

10. (canceled)

11. (canceled)

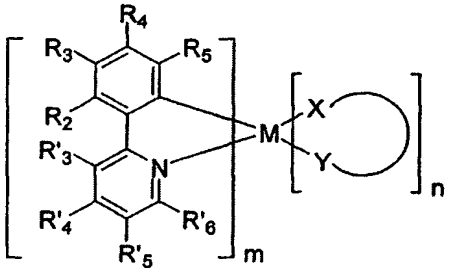
12. (previously presented) The emissive material of claim 1 wherein at least one substituent of the emissive material is an electron donating group selected from alkyl, alkenyl, aryl, heteroaryl, OR, SR, NR_2 (including cyclic-amino), and PR_2 (including cyclic-phosphino), where R is a hydrogen, alkyl, aryl or heteroaryl group.

13. (previously presented) The emissive material of claim 1 wherein the metal is selected from Ir, Pt, Pd, Rh, Re, Os, Tl, Pb, Bi, In, Sn, Sb, Te, Au, and Ag.

14. (previously presented) The emissive material of claim 1 wherein the metal is iridium.

15. (previously presented) The emissive material of claim 1 wherein the metal is platinum.

16. (previously presented) A composition represented by the structure:



wherein M is a heavy metal with an atomic weight of greater than or equal to 40;

each of R_2 through R_5 and R'_3 through R'_6 are independently selected from the group consisting of H, halogens, CN, perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, PO_3R, C≡CR, alkyl, alkenyl, aryl, heteroaryl, OR, SR, NR_2 (including cyclic-amino), and PR_2 (including cyclic-phosphino), where R is hydrogen, an alkyl group, an aryl group or a heteroaryl group, wherein at least one of R_3 and R_5 is CN;

m is an integer between 1 and 4 and n is an integer between 1 and 3;

 is a monoanionic non carbon coordinating ligand; and,

wherein if neither R_3 nor R_5 is an electron donating group then R'_4 is an electron donating group.

17. (original) The composition of claim 16, wherein neither R_3 nor R_5 is an electron donating group and wherein R'_4 is an electron donating group.

18. (canceled)

19. (previously presented) The composition of claim 16, wherein R'_4 is an electron donating group.

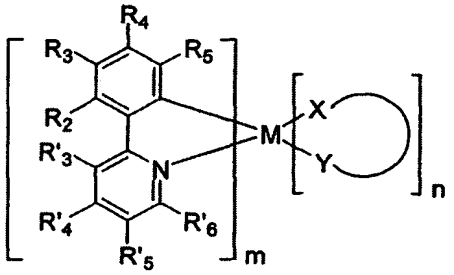
20. (previously presented) The composition of claim 16, wherein one of R_3 and R_5 is an electron donating group, and R'_4 is an electron withdrawing group.

21. (currently amended) The composition of claim 16 wherein at least one substituent of the composition is an electron withdrawing group selected from halogens, ~~CN,~~ perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, PO_3R, C≡CR, and aryl and heteroaryl groups substituted with halogens, CN, perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, or PO_3R , where R is a hydrogen, alkyl, aryl or heteroaryl group.

22. (previously presented) The composition of claim 16 wherein at least one substituent of the composition is an electron donating group selected from alkyl, alkenyl, aryl, heteroaryl, OR, SR, NR_2 (including cyclic-amino), and PR_2 (including cyclic-phosphino), where R is a hydrogen, alkyl, aryl or heteroaryl group.

23. (original) The composition of claim 16 wherein the metal is selected from Ir, Pt, Pd, Rh, Re, Os, Tl, Pb, Bi, In, Sn, Sb, Te, Au, and Ag.

24. (previously presented) A composition represented by the structure:



wherein M is a heavy metal with an atomic weight of greater than or equal to 40;

each of R_2, R_4, and R'_3 through R'_6 are independently selected from the group consisting of H, halogens, CN, perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, PO_3R, C≡CR, alkyl, alkenyl, aryl, heteroaryl, OR, SR, NR_2 (including cyclic-amino), and PR_2 (including cyclic-phosphino), where R is hydrogen, an alkyl group, an aryl group or a heteroaryl group;

at least one of R_3 and R_5 is CN, and, where only one of R_3 and R_5 is CN, the other is selected from the group consisting of H, perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, PO_3R, C≡CR, and aryl and heteroaryl groups substituted with halogens, CN, perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, or PO_3R, where R is a hydrogen, alkyl, aryl or heteroaryl group, wherein m is an integer between 1 and 4 and n is an integer between 1 and 3 and X-Y is non carbon coordinating monoanionic ligand .

25. (canceled)

26. (previously presented) The composition of claim 24 wherein at least one of R_2 and R_4 is F.

27. (original) The composition of claim 26 wherein R'_4 is an electron donating group.

28. (original) The composition of claim 26 wherein R'_4 is NMe_2.

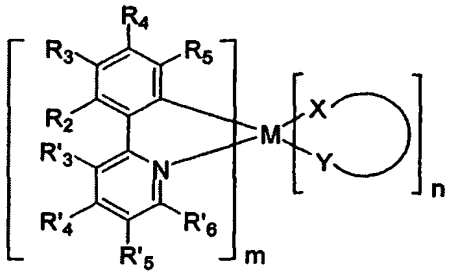
29. (previously presented) The composition of claim 24 wherein one of R_3 and R_5 is CF_3.

30. (original) The composition of claim 29 wherein at least one of R_2 and R_4 is F.

31. (original) The composition of claim 29 wherein R'_4 is an electron donating group.

32. (original) The composition of claim 29 wherein R'_4 is NMe_2.

33. (previously presented) A light emitting device comprising an organic layer, the organic layer comprising a composition represented by the structure:



wherein M is a heavy metal with an atomic weight of greater than or equal to 40;

each of R_2 through R_5 and R'_3 through R'_6 are independently selected from the group consisting of H, halogens, CN, perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, PO_3R, C≡CR, alkyl, alkenyl, aryl, heteroaryl, OR, SR, NR_2 (including cyclic-amino), and PR_2 (including cyclic-phosphino), where R is hydrogen, an alkyl group, an aryl group or a heteroaryl group, wherein at least one of R_3 and R_5 is CN;

one of R_3 and R_5 is optionally an electron donating group;

m is an integer between 1 and 4 and n is an integer between 1 and 3: and

is a monoanionic non carbon coordinating ligand.

34. (canceled)

35. (original) The light emitting device of claim 33 wherein R_3 and R_5 are both electron withdrawing groups.

36. (original) The light emitting device of claim 33 wherein R_3 is an electron withdrawing group.

37. (previously presented) The light emitting device of claim 36 wherein R_2 and R_4 are electron withdrawing groups.

38. (original) The light emitting device of claim 33 wherein R_2 and R_4 are electron withdrawing groups.

39. (previously presented) The light emitting device of claim 33 wherein one of R_3 and R_5 is an electron donating group.

40. (canceled)

41. (previously presented) The light emitting device of claim 33 wherein at least one substituent of the emissive material is an electron donating group selected from alkyl, alkenyl, aryl, heteroaryl, OR, SR, NR_2 (including cyclic-amino), and PR_2 (including cyclic-phosphino), where R is a hydrogen, alkyl, aryl or heteroaryl group.

42. (original) The light emitting device of claim 33 wherein the metal is selected from Ir, Pt, Pd, Rh, Re, Os, T1, Pb, Bi, In, Sn, Sb, Te, Au, and Ag.

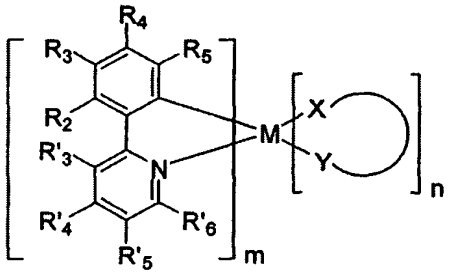
43. (original) The light emitting device of claim 33 wherein the metal is Pt.

44. (original) The light emitting device of claim 33 wherein the metal is Ir.

45. (previously presented) The light emitting device of claim 33 wherein light emitted by the organic layer has a maximum wavelength of less than 520 nm.

46. (original) The light emitting device of claim 33 wherein light emitted by the organic layer has a wavelength of between approximately 420 nm and approximately 480 nm.

47. (previously presented) A light emitting device comprising an organic layer, the organic layer comprising a composition represented by the structure:



wherein M is a heavy metal with an atomic weight of greater than or equal to 40;

each of R_2 through R_5 and R'_3 through R'_6 are independently selected from the group consisting of H, halogens, CN, perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R,

S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, PO_3R, C≡CR, alkyl, alkenyl, aryl, heteroaryl, OR, SR, NR_2 (including cyclic-amino), and PR_2 (including cyclic-phosphino), where R is hydrogen, an alkyl group, an aryl group or a heteroaryl group, wherein at least one of R_3 and R_5 is CN;

one of R_3 and R_5 is optionally an electron donating group;

m is an integer between 1 and 4 and n is an integer between 1 and 3;

 is a monoanionic non carbon coordinated ligand; and,

wherein if neither R_3 nor R_5 is an electron donating group then R'_4 is an electron donating group.

48. (previously presented) The light emitting device of claim 47, wherein R'_4 is an electron donating group.

49. (previously presented) The light emitting device of claim 47, wherein both R_3 and R_5 are electron withdrawing groups and R'_4 is an electron donating group.

50. (previously presented) The light emitting device of claim 47, wherein one of R_3 and R_5 is an electron donating group and R'_4 is an electron withdrawing group.

51. (previously presented) The light emitting device of claim 47, wherein R'_4 is an electron withdrawing group.

52. (currently amended) The light emitting device of claim 47 wherein at least one substituent of the composition is an electron withdrawing group selected from halogens, ~~CN,~~ perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, PO_3R, C≡CR, and aryl and heteroaryl groups substituted with halogens, CN, perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, or PO_3R, where R is a hydrogen, alkyl, aryl or heteroaryl group.

53. (previously presented) The light emitting device of claim 47 wherein at least one substituent of the composition is an electron donating group selected from alkyl, alkenyl, aryl, heteroaryl, OR, SR, NR_2 (including cyclic-amino), and PR_2 (including cyclic-phosphino), where R is a hydrogen, alkyl, aryl or heteroaryl group.

54. (original) The light emitting device of claim 47 wherein the metal is selected from Ir, Pt, Pd, Rh, Re, Os, Tl, Pb, Bi, In, Sn, Sb, Te, Au, and Ag.

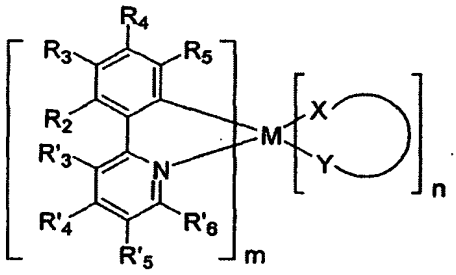
55. (original) The light emitting device of claim 47 wherein the metal is Pt.

56. (original) The light emitting device of claim 47 wherein the metal is Ir.

57. (original) The light emitting device of claim 47, wherein light emitted by the organic layer has a maximum wavelength of less than 520nm.

58. (original) The light emitting device of claim 47 wherein light emitted by the organic layer has a wavelength of between approximately 420 nm and approximately 480 nm.

59. (previously presented) A light emitting device comprising an organic layer, the organic layer comprising a composition represented by the structure:



wherein M is a heavy metal with an atomic weight of greater than or equal to 40;

each of R_2, R4, and R'_3 through R'_6 are independently selected from the group consisting of H, halogens, CN, perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, PO_3R, C≡CR, alkyl, alkenyl, aryl, heteroaryl, OR, SR, NR_2 (including cyclic-amino), and PR_2 (including cyclic-phosphino), where R is hydrogen, an alkyl group, an aryl group or a heteroaryl group;

m is an integer between 1 and 4 and n is an integer between 1 and 3; and,

is a monoanionic non carbon coordinating ligand;

at least one of R_3 and R_5 is CN, and where only one of R_3 and R_5 is CN, the other is selected from the group consisting of H, perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, PO_3R, C≡CR, and aryl and heteroaryl groups

substituted with halogens, CN, perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, or PO_3R, where R is a hydrogen, alkyl, aryl or heteroaryl group.

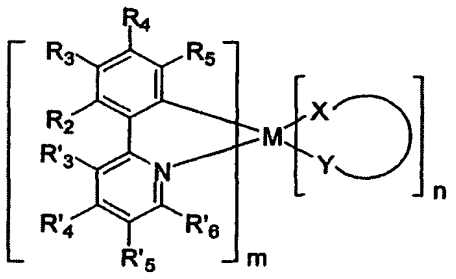
60. (canceled)

61. (previously presented) The light emitting device of claim 59 wherein at least one of R_2 and R_4 is F.

62. (previously presented) The light emitting device of claim 59 wherein one of R_3 and R_5 is CF_3.

63. (previously presented) The light emitting device of claim 59 wherein one of R_3 and R_5 is CF_3, and at least one of R_2 and R_4 is F.

64. (previously presented) A composition represented by the following structure:



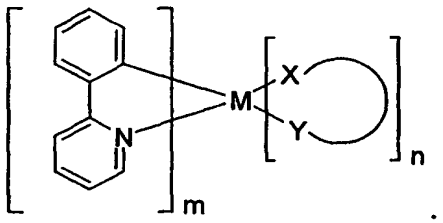
wherein M is a heavy metal with an atomic weight of greater than or equal to 40;

each of R_2 through R_5 and R'_3 through R'_6 are independently selected from the group consisting of H, halogens, CN, perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, PO_3R, C≡CR, alkyl, alkenyl, aryl, heteroaryl, OR, SR, NR_2 (including cyclic-amino), and PR_2 (including cyclic-phosphino), where R is hydrogen, an alkyl group, an aryl group or a heteroaryl group, wherein at least one of R_3 and R_5 is CN;

m is an integer between 1 and 4 and n is an integer between 1 and 3; and,

is a monoanionic non carbon coordinating ligand,

wherein R_3 and R_5 are selected to provide a hypsochromic shift in the emission spectrum of the compound of greater than or equal to approximately 40 nm as compared with the emission spectrum of a composition with the following structure:

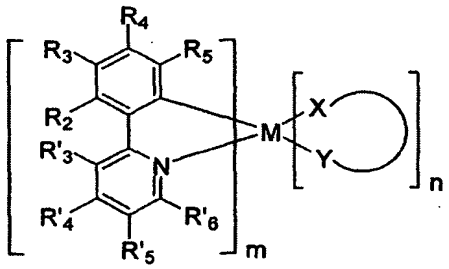


65. (canceled)

66. (canceled)

67. (canceled)

68. (previously presented) An emissive material represented by the structure:



wherein M is a heavy metal with an atomic weight of greater than or equal to 40; m is at least 1 n is at least 0

X —Y is an ancillary ligand;

R_2 and R_4 are both F;

each of R_3, R_5, and R'_3 through R'_6 are independently selected from the group consisting of H, halogens, CN, perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, PO_3R, C≡CR, alkyl, alkenyl, aryl, heteroaryl, OR, SR, NR_2 (including cyclic-amino), and PR_2 (including cyclic-phosphino), where R is hydrogen, an alkyl group, an aryl group or a heteroaryl group, wherein at least one of R_3 and R_5 is CN.

69. (canceled)

70. (original) The emissive material of claim 68 wherein R_3 and R_5 are both electron withdrawing groups.

71. (original) The emissive material of claim 68 wherein R_3 is an electron withdrawing group.

72. (currently amended) The emissive material of claim 68 wherein at least one substituent of the emissive material is an electron withdrawing group selected from halogens, ~~CN,~~ perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, PO_3R, C≡CR, and aryl and heteroaryl groups substituted with halogens, CN, perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, or PO_3R, where R is a hydrogen, alkyl, aryl or heteroaryl group.

73. (previously presented) The emissive material of claim 68 wherein one of R_3 and R_5 is an electron donating group.

74. (canceled)

75. (original) The emissive material of claim 68 wherein R_3 is an electron donating group.

76. (previously presented) The emissive material of claim 68 wherein at least one substituent of the emissive material is an electron donating group selected from alkyl, alkenyl, aryl, heteroaryl, OR, SR, NR_2 (including cyclic-amino), and PR_2 (including cyclic-phosphino), where R is a hydrogen, alkyl, aryl or heteroaryl group.

77. (original) The emissive material of claim 68 wherein the metal is selected from Ir, Pt, Pd, Rh, Re, Os, T1, Pb, Bi, In, Sn, Sb, Te, Au, and Ag.

78. (original) The emissive material of claim 68 wherein the metal is iridium.

79. (original) The emissive material of claim 68 wherein the metal is platinum.

80. (previously presented) The composition of claim 68 wherein if neither R_3 nor R_5 is an electron donating group then R'_4 is an electron donating group.

81. (canceled)

82. (previously presented) The emissive material of claim 80 wherein R'_4 is an electron withdrawing group.

83. (canceled)

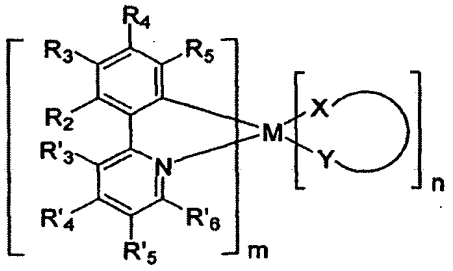
84. (previously presented) The emissive material of claim 80 wherein one of R_3 and R_5 is an electron donating group, and R'_4 is an electron withdrawing group.

85. (currently amended) The emissive material of claim 80 wherein at least one substituent of the emissive material is an electron withdrawing group selected from halogens, ~~CN,~~ perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, PO_3R, C≡CR, and aryl and heteroaryl groups substituted with halogens, CN, perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, or PO_3R, where R is a hydrogen, alkyl, aryl or heteroaryl group.

86. (previously presented) The emissive material of claim 80 wherein at least one substituent of the emissive material is an electron donating group selected from alkyl, alkenyl, aryl, heteroaryl, OR, SR, NR_2 (including cyclic-amino), and PR_2 (including cyclic-phosphino), where R is a hydrogen, alkyl, aryl or heteroaryl group.

87. (original) The emissive material of claim 80 wherein the metal is selected from Ir, Pt, Pd, Rh, Re, Os, Tl, Pb, Bi, In, Sn, Sb, Te, Au, and Ag.

88. (previously presented) A light emitting device comprising an organic layer, the organic layer comprising a composition represented by the general structure:



wherein M is a heavy metal with an atomic weight of greater than or equal to 40; m is at least 1 n is at least 0

X –Y is an ancillary ligand;

R_2 and R_4 are both F;

each of R_3, R_5, and R'_3 through R'_6 are independently selected from the group consisting of H, halogens, CN, perfluoroalkyl, trifluorovinyl, NO_2, CO_2R, C(O)R, S(O)R, SO_2R, SO_3R, P(O)R, PO_2R, PO_3R, C≡CR, alkyl, alkenyl, aryl, heteroaryl, OR, SR, NR_2 (including cyclic-amino), and PR_2 (including cyclic-phosphino), where R is hydrogen, an alkyl group, an aryl group or a heteroaryl group, wherein at least one of R_3 and R_5 is CN.

89. (canceled)

90. (previously presented) The light emitting device of claim 88 wherein if neither R_3 nor R_5 is an electron donating group then R'_4 is an electron donating group.